AUTOPILOT

AUTOmated driving **P**rogressed by the **I**nternet **O**f **T**hings

This project has received funding from the European Union's H2020 research and innovation programme under Grant Agreement No 731993

Project objectives and focus

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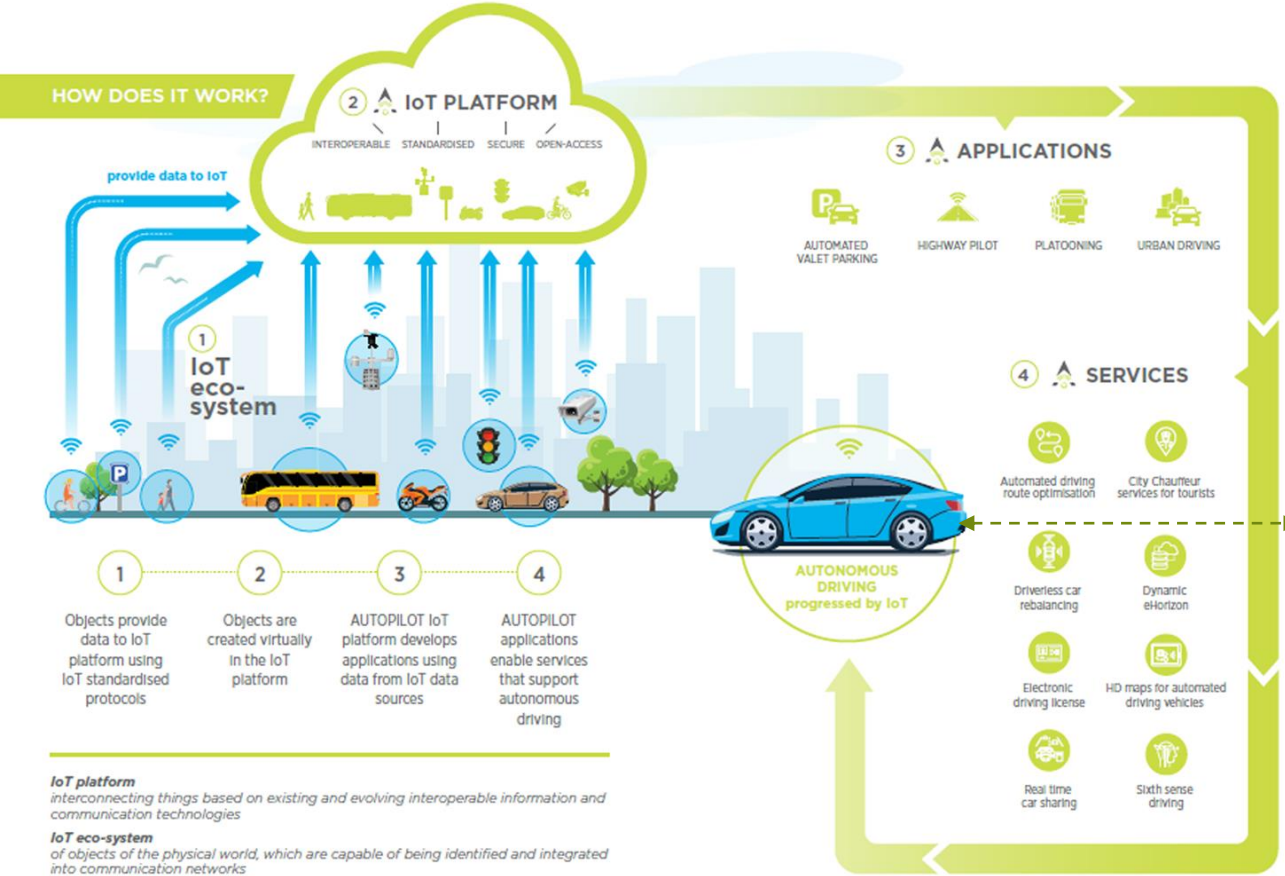
Project concept

Merging automotive and **IoT technologies** to move forwards **Automated Driving** towards a new dimension

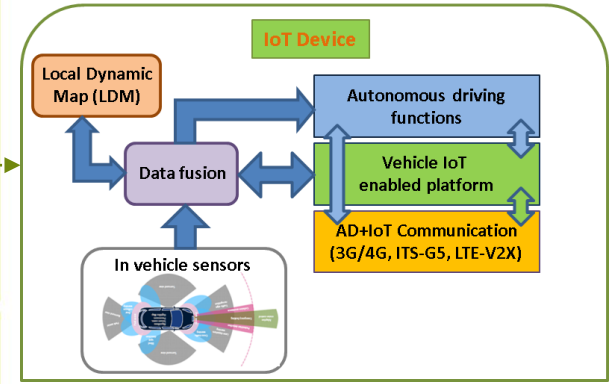
- Utilize devices – not being naturally connected to vehicles – to collect information about the driving environment
- Use IoT to manage these “Sensor” devices
- Enhance the driving environment perception with these “IoT enabled” sensors
- Makes the vehicle also an IoT device

Focusing on advancing Automated Driving, AUTOPILOT will also transform the Mobility in the cities

IOT to transform automated driving



Vehicle IoT integration



IoT and Automated Driving benefits for Cities

- Automated Driving Benefits
  - Increased Safety in particular for the numerous Vulnerable Road User in Cities
  - Driverless cabs and public transport vehicles enable: higher flexibility – less vehicles – on demand services (time and journey)
  - Dynamic route optimisation increasing usage of vehicles, sharing ride and costs
  - New services like for instance Driverless vehicles for tourists – shared vehicle rebalancing
- IoT benefits
  - Reuse existing sensor devices in cities (camera, intelligent traffic light …) for improving mobility, as well as more globally Quality of Life, but also to address other needs (IoT eco-system)
  - IoT and Automated Driving are good foundations for Mobility as a Service platforms

Challenges

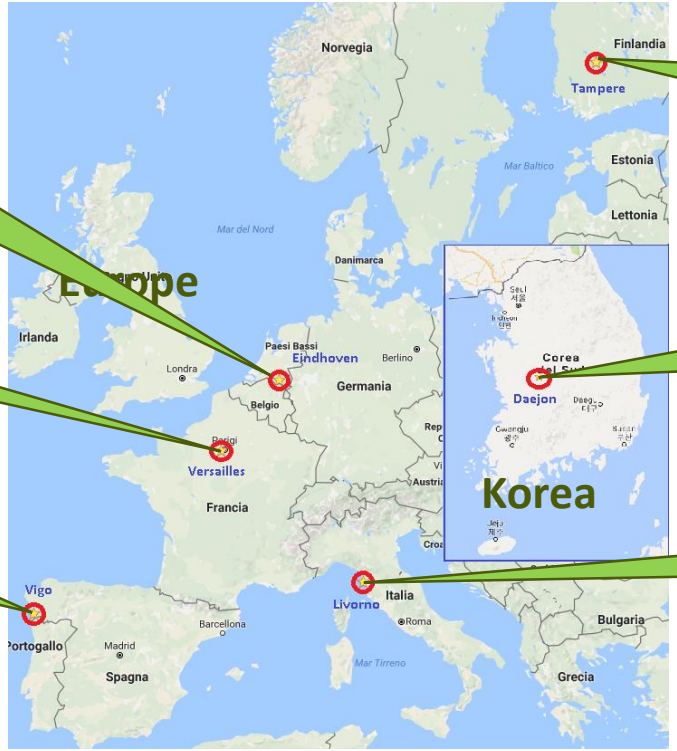
- How to unlock the situation with “data ownership” with stakeholders refraining to share sharing their data?
  - Develop a fair win/win policy – regulate the “ownership” – allow the exchange of a critical mass of data
- IoT sensor data needs to be standardised, in order to be correctly used by all the actors on the value chains
  - Standardisation to also enable a cross vertical usage of data
- Ensure the availability of the appropriate connectivity to connect 10s billions of devices till 2030
- Create a market place with fair competition combining commercial and open source solutions to ease public private procurement

All pilot site in cities

Eindhoven, NL

Versailles, FR

Vigo, SP



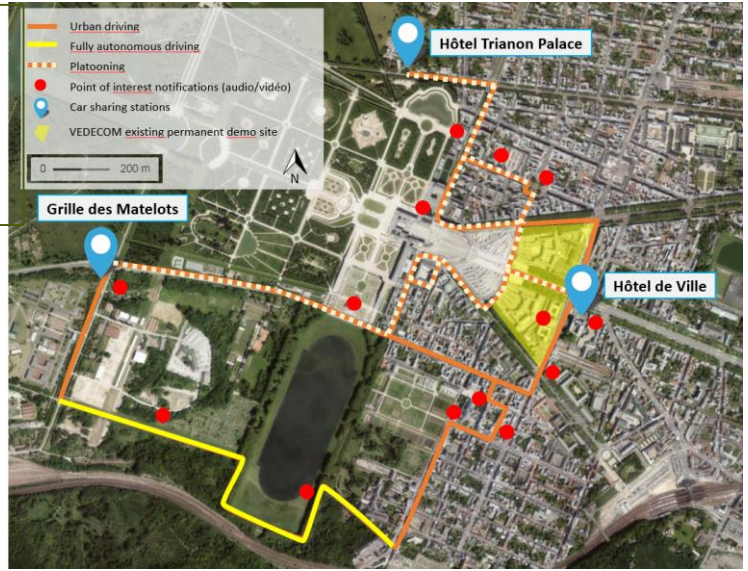
Tampere, FI

Daejeon, KR

Livorno, IT

IoT enabled AD driving scenarios

- Urban driving : city centre and Castle's gardens with VRU detection
- Platooning for automatic fleet rebalancing



- URBAN DRIVING: fixed route with 4 traffic lights - VRU detection by infrastructure and other vehicles – IOT to access to traffic light status and remaining time
- AUTOMATED VALET PARKING : Indoor city council parking – IOT to access to cameras VRU and vehicle detection

Project information

European Platforms Initiative

European Large-Scale Pilots Programme

AIOTI

<u>5 Large Scale Pilots on IoT</u> are funded by the European Commission

- AUTOPILOT is the Pilot about Connected and Automated Driving
- 3 Years Innovation Action: 01/01/2017 – 31/12/2019
- 44 beneficiaries – coordinator: ERTICO
- Budget: 25 m€ - EU contribution: 20 m€
- European Commission: DG CONNECT unit E.4 – IoT / H.2 Smart Mobility & living / A.1 Robotics & Artificial Intelligence

The 5 Large scale pilots are <u>cross coordinated and supported by 2 CSA</u>:

- CREATE-IoT (create-iot.eu) CREATE-IoT
- U4IoT (www.u4iot.eu) U4IoT

Thank you

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